

# Buckskin Saddle Integrated Restoration Project Proposal

The Buckskin Saddle Integrated Restoration Project (BSIRP) is identified on the IPNF's 5-Year Action plan and as a Priority Landscape Treatment Area as classified by the Idaho State Governor, which emphasizes the need for a holistic ecological restoration approach across all land ownerships. Future desired conditions should move the landscape towards one that maintains natural processes, patterns and functions, and is more resilient to unforeseen disturbances. This initial proposal incorporates collaborative forest landscape restoration goals that tier to the IPNF forest plan, and National Forest System land management objectives.

## Where the Project is Located

The project area is located on the Sandpoint Ranger District of the Idaho Panhandle National Forests (IPNF) and lies south of Highway 2 about 2 air miles southwest of Clark Fork, Idaho (see figure 1 below). The project area boundary encompasses approximately 56,000 acres which includes the Granite Creek, Johnson Creek and numerous small tributaries to the lower Clark Fork River and Lake Pend Oreille.

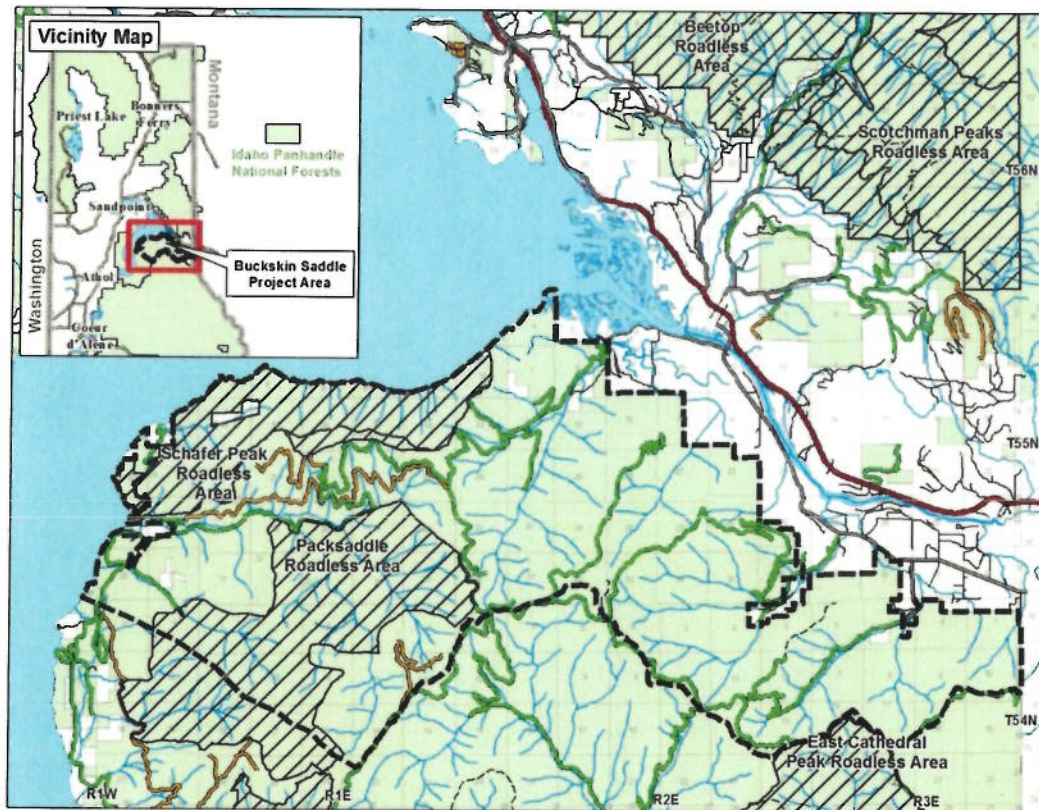


Figure 1. Location of the Buckskin Saddle Integrated Restoration Project.

## Why are we proposing this project?

Our primary focus within the Buckskin Saddle Integrated Restoration Project area is to manage forest stands to better maintain or enhance resilience to disturbances such as drought, insects, diseases, and wildfires. We are also concerned about areas where fuel accumulations are increasing or continuous across the landscape, conditions which often contribute to large severe wildfires. The steep and inaccessible topography over much of the project area makes fire suppression exceptionally difficult. The northern and western sections of the project are within and adjacent to the wildland-urban interface (WUI). These areas contain decadent stands conditions with excessively high fuel loadings (dead and down trees, branches, and forest litter). When wildfire(s) occur in these fuel types, these conditions could cause a severe fire that is difficult to control and could easily spread onto adjacent private lands. If such a fire event were to kill expansive areas of trees across multiple drainages, heavy rains could cause large flash floods and debris flows, negatively affecting private landowners and small private water systems within the project area.

Potential values at risk include improvements on private lands, essential forest infrastructure investments, and intrinsic natural resource values such as critical wildlife habitat, recreation and scenic integrity of the Lake Pend Oreille viewshed. In addition, bisecting the project area are two Bonneville Power Association 230KW high voltage power transmission lines. These transmission lines service the greater Spokane and Inland Empire areas as well as provide additional capacity to the larger PacWest power grid reaching as far as Northern California. In the event of severe wildfire(s), this critical strategic asset could be severely impacted and disrupt power supply to potentially millions of downstream users.

Other resource objectives could include: maintaining and improving recreational use and experiences, maintaining and improving aquatic ecosystems, treating noxious weeds, maintaining and improving the transportation system, and promoting the persistence and stability of wildlife habitat.

The following sections highlight our preliminary purpose and need for the Buckskin Saddle Integrated Restoration Project, listing several specific goals and objectives and explaining why they are necessary.

### Changing Forest Vegetation to Improve Landscape Resiliency

Forest vegetation in the BSIRP area has changed over time due to a combination of fire suppression, introduction of white pine blister rust and past forest management practices. Before the accidental introduction of blister rust, white pine was a more significant component of the landscape. Historically, larch stands regenerated in the sunny openings created by wildfires.

**What is landscape resiliency?** In ecology, resilience is the capacity of an ecosystem to withstand a disturbance by resisting damage and recovering over time to its original state. Such disturbances can include events such as fires, flooding, windstorms, insect population explosions, and human activities such as fire suppression and the introduction of exotic plant or animal species.

For thousands of years, both large and small fires were common across all of north Idaho. During recorded history, between the years 1889 and 1929 numerous fire events covered more than two-thirds of the BSIRP area. Data suggests that up until the era of successful fire suppression in the early 1930's, fire disturbance was frequent across the landscape. These mixed-severity fires likely maintained lower fuel loadings than we see today, helped to create a mosaic of stand conditions,

and provided for a wide range of wildlife habitats. Due to successful fire suppression efforts, natural fires have now been absent for over 100 years in this area, resulting in a relatively homogenous landscape with increased fuels and dense stands of similar age, structure, and composition.

(Insert Image)

**Figure 2. View from Johnson Saddle looking southwest into the headwaters of Granite Creek w/Lake Pend Oreille in the distance.**

Forest systems are uniquely dynamic given their respective composition and structure and resistance to disturbance events. In the case of the proposed BSIRP area, we know that we cannot change topography nor the weather; but we can adjust stand structures, fuel loadings and continuity of fuels across the forested areas. Through carefully adapted vegetation management, this project will explore what, where and how can we manage the forest stands and fuel types in the project area to return the area to a more fire adapted and resilient state.

One way to evaluate risks pertaining to overall ecosystem stability is to compare the current and historic values of the existing vegetation composition at the landscape level. Preliminary data for the area indicates several components, or forest composition and structure classes, are well outside of the historical range for this landscape. These observed trends in Figures 3-5 help evaluate which forest components may need to be addressed with this proposal.

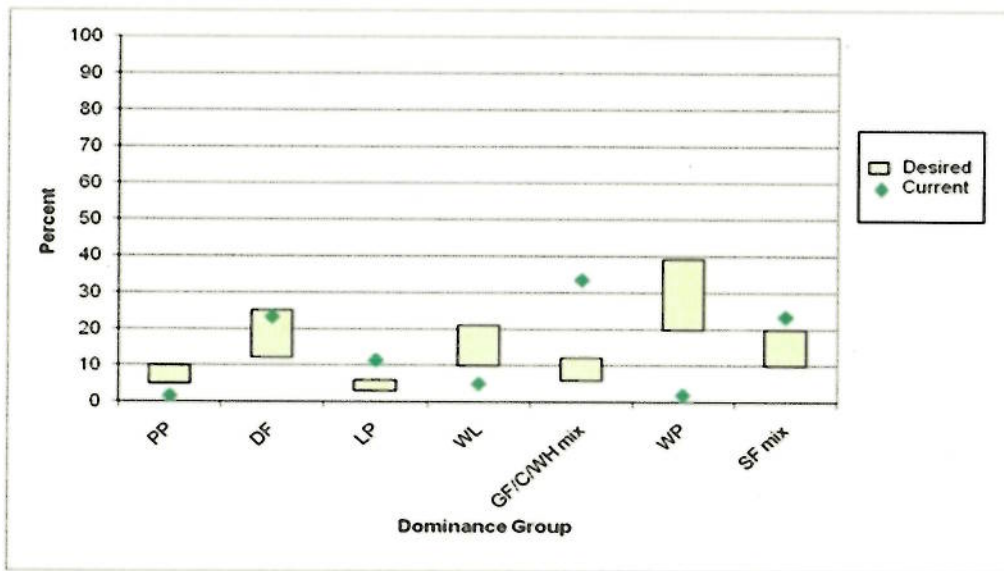
### **Existing Forest Composition and Structure**

Forest composition refers to the assemblage of tree species. Forest structure is the horizontal and vertical distribution of layers in a forest. Structure looks at the proportion of young, mature, and old trees across the landscape. The following charts represent current and historic range (HRV) of landscape conditions as defined by the 2015 IPNF Forest Plan.

Within the BSIRP area specifically the current percentage of western white pine (WP) is barely perceivable at 1 percent, well below the historic average of approximately 30 percent. This is likely due to the introduction of white pine blister rust.

Ponderosa pine (PP) and western larch (L) are also well below historic averages. While grand fir/cedar and western hemlock are far above natural ranges.





PP = ponderosa pine; DF = Douglas-fir; LP = lodgepole pine; WL = western larch; GF/C/WH mix = grand fir/cedar/western hemlock mix; WP = white pine; and SF mix = subalpine fir mix

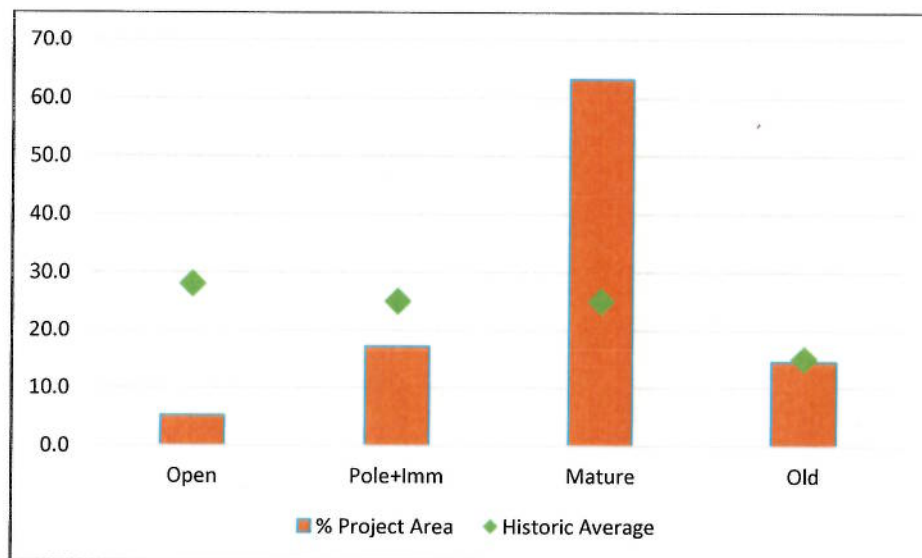
**Figure 3. Desired and Current Forest Composition by Dominance Group at the Forestwide Scale**

The following chart shows that openings in the forest canopy currently occupy about 5 percent of the project area. This is well below the sub-basin average of nearly 30 percent of the landscape.

Young forests currently represent roughly 15 percent of project area. This number is below historic sub-basin average of 25 percent.

Mature high risk forested conditions are currently observed across over 60 percent of the project area which is well above historic conditions.

Old growth currently comprises roughly 14 percent of the landscape which is somewhat below the historic range of 10 to 35 percent.

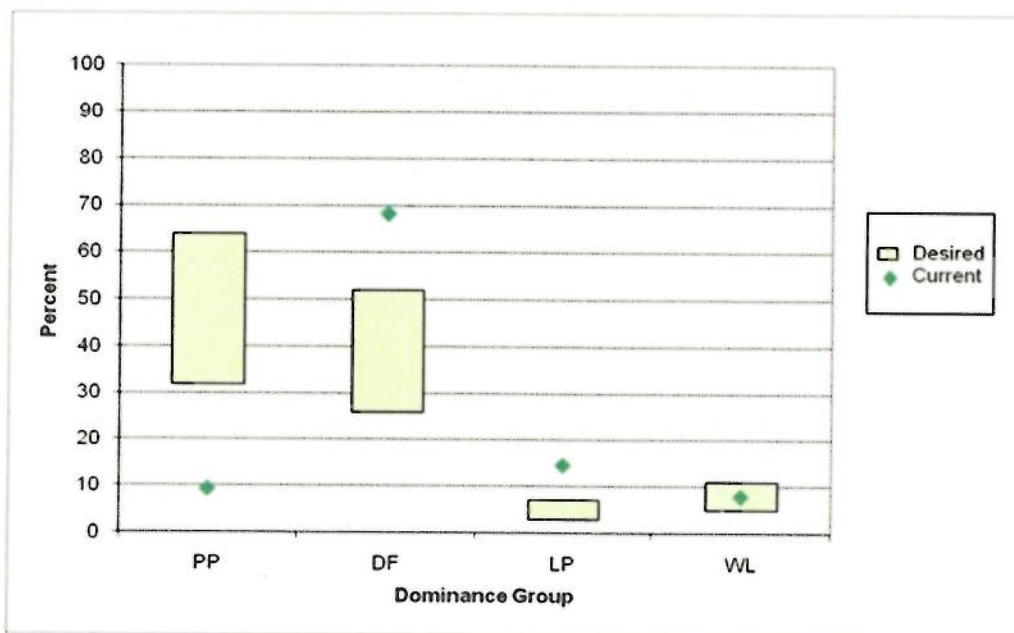


**Figure 4. Buckskin Saddle Project Current vs. Historic Forest Structure**

**Biophysical Conditions-** Generally there are two dominant vegetation types within the BIRSP area, Warm/Dry forest types and the Warm/Moist forest type. The following charts represent departure from historical ranges for each type.

**Warm/Dry** – This biophysical setting includes the warmest and driest sites that support forest vegetation.

The desired and current condition for dominance groups and size classes are displayed in figure 4 and figure 5, respectively.

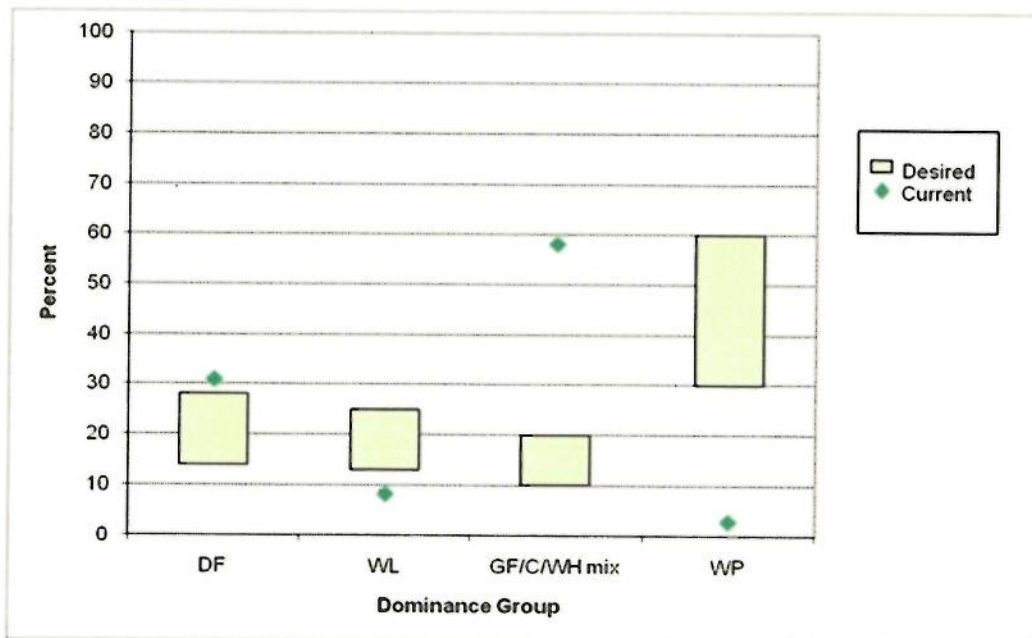


PP = ponderosa pine; DF = Douglas-fir; LP = lodgepole pine; WL = western larch

**Figure 5. Desired and Current Forest Composition by Dominance Group for the Warm/Dry Biophysical Setting**

**Warm/Moist** – This biophysical setting includes moist forest sites that are relatively warm. This setting includes low-elevation upland sites with deeper soils on north and east aspects, extensive mid-elevation moist upland sites, and most low and mid-elevation wet stream bottoms, riparian benches, and toe-slopes.

The desired and current condition for dominance groups and size class are displayed in figure 6 and figure 7, respectively.



DF = Douglas-fir; WL = western larch; GF/CWH mix = grand fir/cedar/western hemlock mix; WP = white pine

**Figure 3. Desired and Current Forest Composition by Dominance Group for the Warm/Moist Biophysical Setting**

## So why here, why now?

Today over half of the project area landscape is composed of mature overstocked forests dominated by Douglas-fir, grand fir, western hemlock, and lodgepole pine; species that have replaced white pine, ponderosa pine and larch. These stands, which historically would have had fewer of these species due to wildfires, have very little structural diversity and are at a much higher risk of succumbing to insect or disease infestations, including long term detrimental fire effects due to excessive fuel loads.

Based upon recent Region 1 Insect and Disease aerial detection surveys nearly three quarters of the project is susceptible to epidemic levels of tree mortality within the next 10-15 years. Mixed conifer stands on both dry and moist sites are exhibiting mass die-off from a combination of root diseases, bark beetles and drought stress, all symptoms of unhealthy and overstocked forest conditions.

The vast majority of predicted mortality stems from the current elevated levels of root disease which is exceptionally prevalent within GF and DF dominated stands across the project area. In addition, dwarf mistletoe and increasing levels of bark beetle activity is occurring on most of the drier aspects.

Existing lodgepole pine stands are considered a high hazard for bark beetle attacks because they are mature, or growing in crowded conditions, a trend that will continue in the foreseeable future.

Aspen, while relatively rare across the project area, typically regenerated after wildfires, now with successful fire suppression they are often competing with conifer trees for light, water and nutrients, which limits their ability to regenerate. Options for enhancing these types of deciduous habitats will be explored using a combination of fire and mechanical treatments.

Because current conditions are in the lower ranges for old growth coverage, many of the mature forest stands would be actively or passively managed so they can develop into future old growth stands where needed for various resource benefits on the landscape.

These and other issues pose a continued risk to vegetation, and further emphasize a need to actively maintain and improve landscape resiliency by providing for tree species, stocking levels, and landscape patterns that better resist insects, disease, and stand-replacing wildfire(s). Potential vegetation opportunities specific to the Buckskin Saddle Integrated Restoration Project include:

- Restoration of white pine on habitat types that historically supported the species.
- Reduction in acres of moderate and high hazard lodgepole pine stands.
- Maintenance and restoration of ponderosa pine and western larch on habitat types that historically supported these species.
- Maintenance and restoration of dry-site old growth stands that may require management in the form of fuels reduction, prescribed fire, or both.
- Increased patch size and special arrangement of forest openings (seedling/sapling) and stimulate vegetation for suitable wildlife habitat.
- Trend stands towards multi-age class distribution proportional to historical landscape burn patterns which better emulates a mixed-severity fire regime.
- Protection of critical public infrastructure and resources

## Potential Management Prescriptions

In order to address the vegetation issues discussed above several different treatment methods may be proposed to manage vegetation in the project area.

**Precommercial Thinning**— In old harvest areas where the regenerating trees have grown dense and are beginning to compete with each other for light, water, and nutrients, we would thin out the smaller suppressed trees and primarily select larch and white pine as leave trees with a target density of about 200 to 300 trees per acre. The slash would be left to rot and recycle the nutrients back into the soil, unless determined to pose a risk from fire to adjacent lands where material could then be piled and burned.





**Figure 7. Example of a precommercial thinning. This management technique helps reduce competition among young trees so they get more light, water and nutrients. The term “precommercial” indicates that the cut material is not yet merchantable for sawlog products.**

**Seedtree with Reserves** – In areas with this prescription the intent is to encourage growth and regeneration of white pine and larch by cutting all trees except those needed for seed production. These areas would have about 5 to 15 percent canopy cover remaining with about 5 to 10 trees per acre and would include “reserves” (groups of trees) in various areas of the stand.

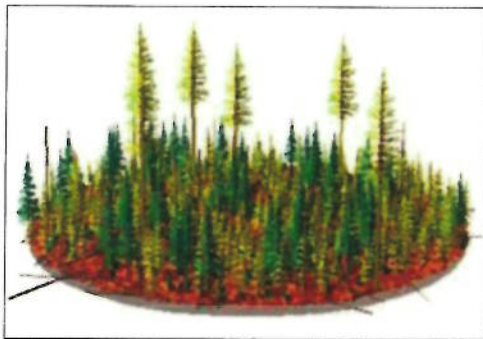
**Shelterwood with Reserves** – This prescription is also designed to encourage growth and regeneration of white pine and larch. These areas would appear moderately open with about 15 to 35 percent canopy cover remaining and a range of 10 to 20 trees per acre and include “reserves” of tree groups in various areas of the stand.

**Selection Thinning**– These prescriptions, used primarily on drier sites remove individual trees and/or groups of 1 to 3-acre patches, creating small openings in areas to regenerate ponderosa pine and larch. Between the openings, we may use a combination of variable density selection and **commercial thinning** methods to remove less desirable understory trees providing the remaining trees more growing space and less competition for water and nutrients. In general, we would leave larger overstory trees (typically over 24” in diameter) to provide structure and habitat diversity, future snag development and for nutrient recruitment. This prescription could also be applicable if treating within old growth ponderosa pine / Douglas-fir type stands. Thinning out the congested understory reduces hazardous ladder fuels and leaves the forest more resilient to wildfire, drought, insects and diseases.

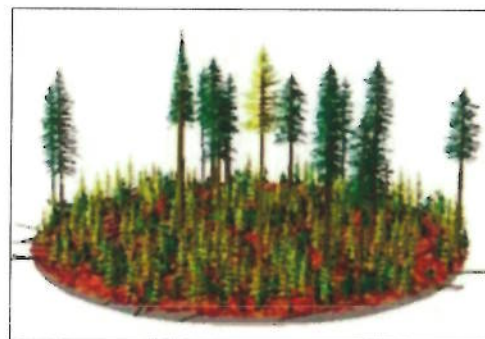




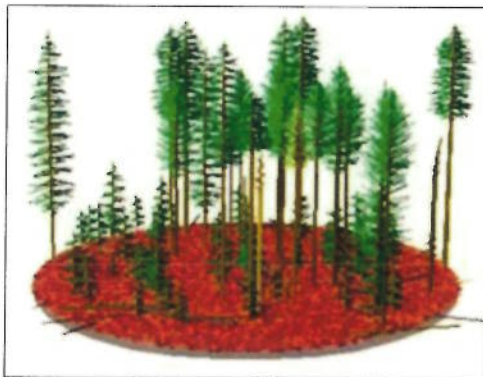
Figure 8. Example of an overstocked dry-Site ponderosa pine and Douglas-fir stand.



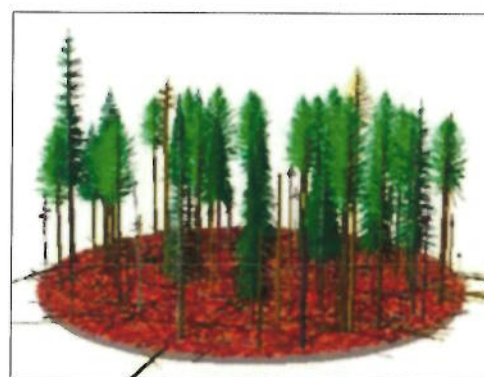
*Seedtree*



*Shelterwood*



*Group selection*



*Commercial thinning*

Figure 9. Graphic simulations showing how different vegetation prescriptions would look

## Other Potential Resource Opportunities

### Aquatic Resources

Currently, many road systems in the BSIRP area are in need of maintenance and require surface work and drainage improvements to prevent sediment from entering into streams. Reducing the risk of sediment delivery from sources such as roads, trails and recreation sites is essential to providing effective long term habitat for species such as Bull Trout which reside in some of the streams in the project area.

#### Improving Fish Passage

Initial fish and aquatic habitat surveys indicate that streams in the project area are functioning properly and require very little restoration. However all opportunities to improve fish passage will be evaluated. Such activities may include culvert replacements with structures that allow fish and other aquatic organisms access to essential aquatic habitat upstream.

### Wildlife Habitat

Much of the project area lies within an Idaho Fish and Game Big Game management unit, therefore elk habitat and security are important considerations for project development. In addition, the area contains critical Flammulated owl habitat, typically found in dry-site stands. These areas may require special treatment considerations to preserve or promote habitat effectiveness.

As depicted in Figure 4, and in the landscape resiliency discussion; this project area contains a landscape of stands that are relatively similar in size and age, and therefore, not providing a wide range of wildlife habitat opportunities. Therefore, this project proposes to:

- Promote the long-term persistence and stability of wildlife habitat and biodiversity by trending toward an ecosystem composed of vegetation that more closely resembles the historic range of variability.
- Improve the diversity of forest structure.
- Emulate historic disturbance patterns.
- Evaluate existing Old Growth stand conditions, and identify opportunities for habitat enhancement for big game species and Flammulated owl.

### Recreation

There is a potential need to enhance recreational sites and opportunities in the BSIRP area because of the increasing demand for outdoor experiences including hiking, hunting, berry picking, motorized and non-motorized travel. By improving recreational sites we can also provide opportunities for visitors to more fully experience the area while protecting off road areas and connecting trail systems from unauthorized use.

In addition, some trailhead parking areas within the project boundary are brushy, not well defined and are merely a wide spot on the road shoulder. Most of these trailheads are too small to turn around safely with a vehicle and trailer. Options to widen trailheads to allow for safer parking and travel will be considered.

### Invasive Plants

Opportunities to contain or control existing noxious weed populations, especially along existing road and trail systems, and minimize potential for new weed infestations will be evaluated.

**Fuels Treatment Projects and the Wildland Urban Interface (WUI)** – Prescribed burning and/or mechanical fuels treatment opportunities will be identified throughout the project area as available.

### **Access/Road Management**

The existing transportation network of arterials, collectors, and major local roads are fairly well established, however opportunities may still exist to modify, improve or enhance road locations to better serve long term resource management needs and the public. Current access on existing roads varies from open yearlong to open seasonally (gated for Elk wildlife security), to roads that are stored in non-drivable status until needed in the future.

**Specified/Temporary Road Construction**– Construction of temporary and/or specified road segments for the purpose of accessing harvest units, creating recreational opportunities, provide for effective fire suppression, and other long term management activities may be considered.

**Placing Roads in Storage** – Most roads within the project area would be needed to accomplish proposed activities. To reduce maintenance costs, following use for the project, some roads may be identified for stabilization and storage, as they could then be reopened and used again in the future with minimal investment.

**Road Reconstruction and Maintenance** – To support large trucks and equipment, we would need to improve road surfaces and conduct maintenance work on existing roads. These activities would include clearing brush from the road shoulders to improve sight distances for safety, blading and shaping the road, cleaning ditches, improving drainage structures, and adding gravel to the road surface to reduce sediment.

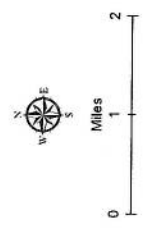
**Gravel Pit Development** – Existing gravel pits located in the project area would likely be used as a gravel source for road maintenance and construction activities. Crushing and hauling activities would occur for a few months while the project roads are being improved.

### **Inventoried Roadless Areas (IRA)**

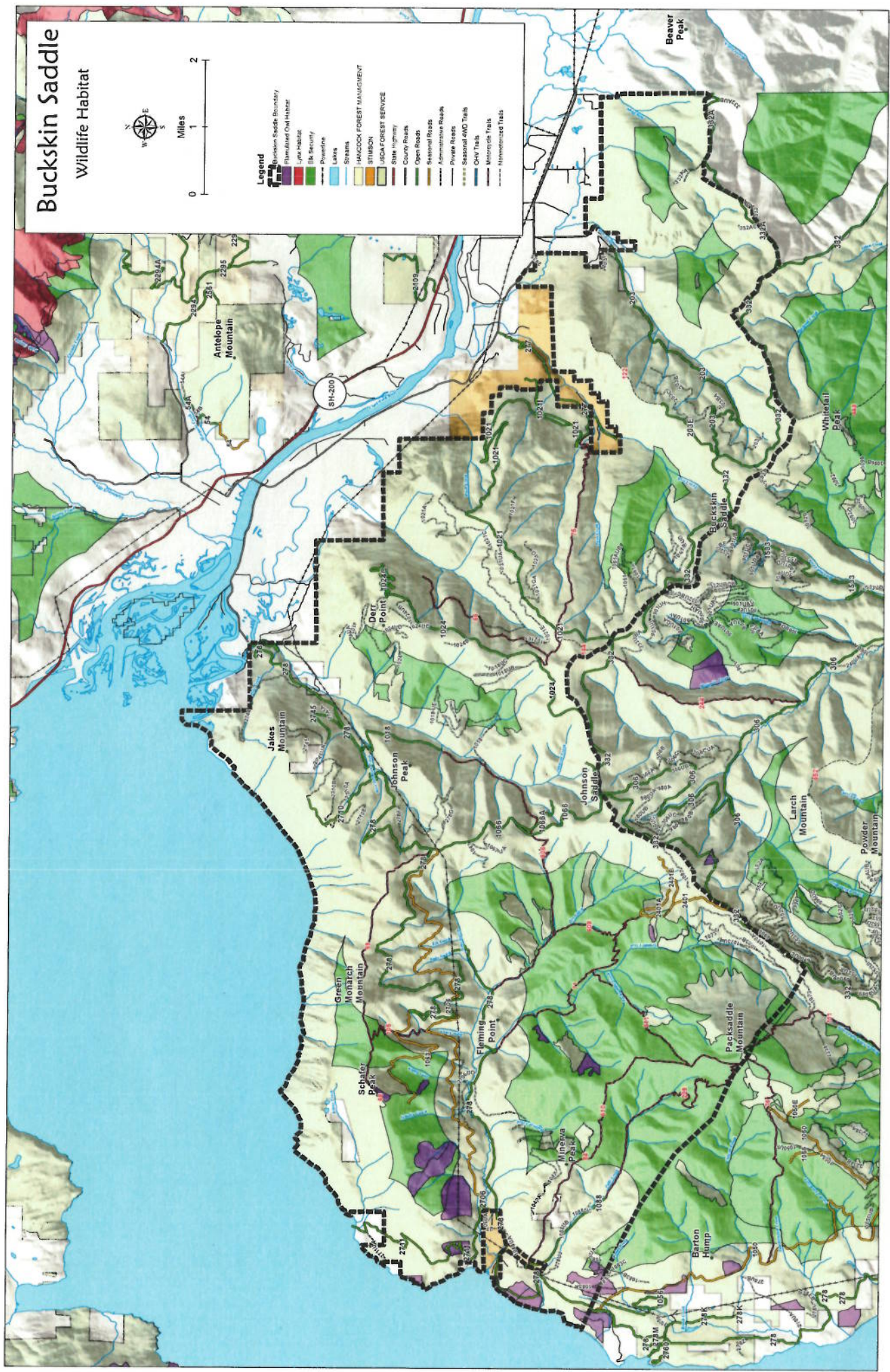
Two Roadless areas (Packsaddle and Schafer Peak IRA's) lie within the project area and are managed as Backcountry or Management Area (MA) 5 as defined in the IPNF Forest Plan. Any proposed management activities within the Roadless Areas must comply with the IPNF Forest Plan as well as Roadless Rule provisions - 294.24(c)(1), (ii-v) , 294.24(c)(1)(vii).



# Buckskin Saddle Wildlife Habitat



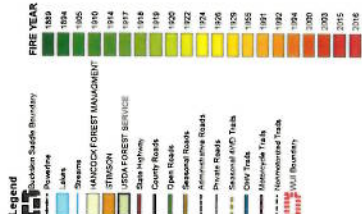
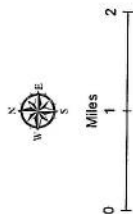
- Legend**
- Buckskin Saddle Boundary
  - Flametal Creek Habitat
  - Life Habitat
  - SR Security
  - Powerline
  - Lakes
  - Streams
  - HAWKCOCK FOREST MANAGEMENT
  - STIMSON
  - USDA FOREST SERVICE
  - State Highway
  - County Road
  - Open Road
  - Seasonal Road
  - Private Road
  - Seasonal AWD Trails
  - Old Trails
  - Motorcycle Trails
  - Nonmotorized Trails





# Buckskin Saddle

## Fire History





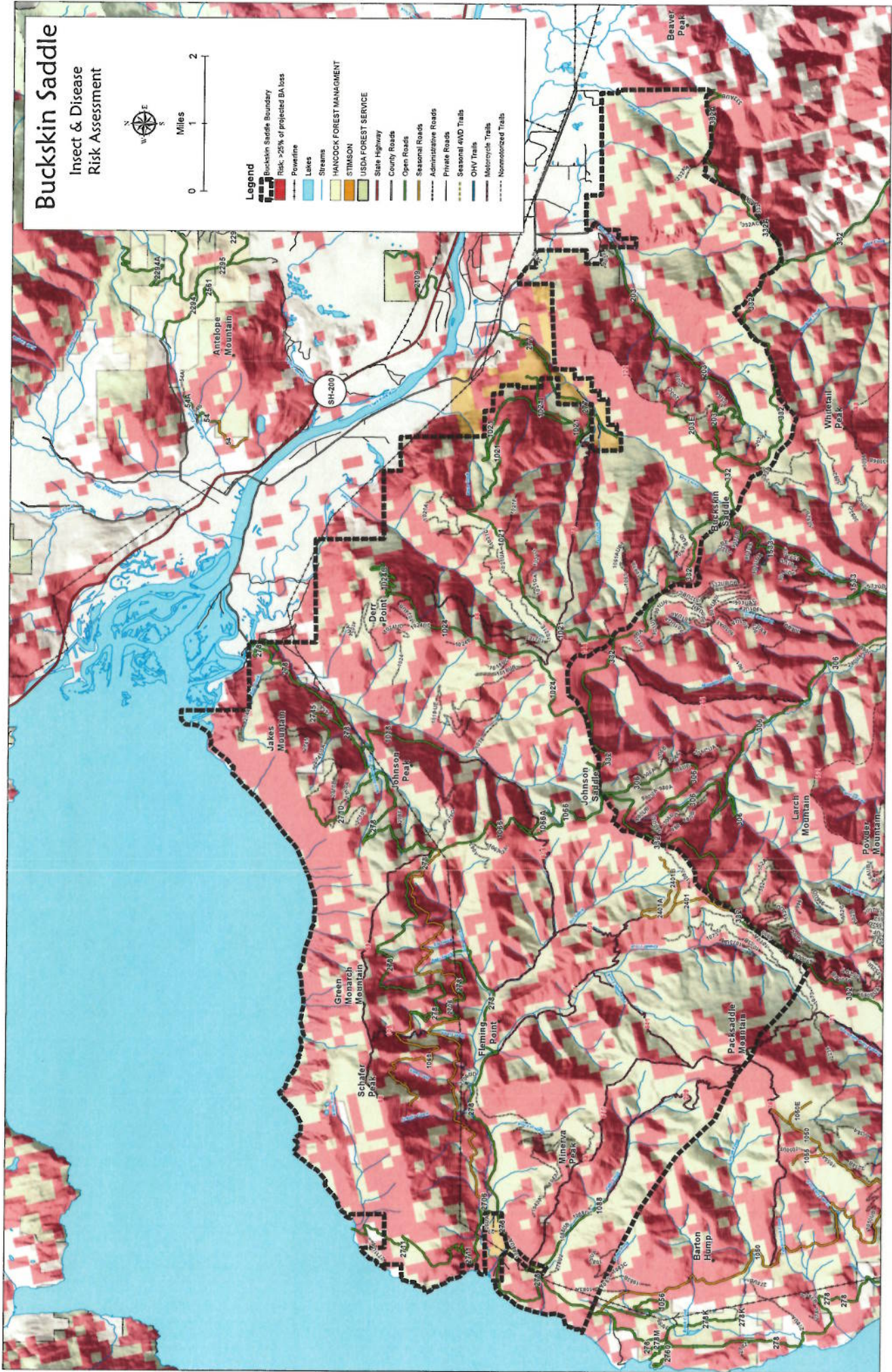
# Buckskin Saddle

## Insect & Disease Risk Assessment



0 1 2  
Miles

- Legend**
- Buckskin Saddle Boundary
  - Risk >25% of projected BA loss
  - Powertine
  - Streams
  - Lakes
  - HANCOCK FOREST MANAGEMENT
  - STIMSON
  - USDA FOREST SERVICE
  - State Highway
  - County Roads
  - Open Roads
  - Seasonal Roads
  - Administrative Roads
  - Private Roads
  - Seasonal AWD Trails
  - OHV Trails
  - Motorcycle Trails
  - Nonmotorized Trails





# Buckskin Saddle

Roadless Areas,  
Old Growth,  
and RHCAs



0 1 2  
Miles

## Legend

- Buckskin Saddle Boundary
- RHCA
- Old Growth Status
- Retained Existing OG
- Roadless Areas
- Management Area
- Reforestation
- Standstill Forest, Rangeland, and Grassland
- Powerlines
- Streams
- Lakes
- HAZCOCK FOREST MANAGEMENT
- ITTBSON
- IRDA FOREST SERVICE
- State Highway
- County Roads
- Open Roads
- Seasonal Roads
- Administrative Roads
- Project Roads
- Seasonal AND Trail
- OHV Trails
- Motorcycle Trails
- Nonmotorized Trails

